

# PATENT SPECIFICATION

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## (54) A DEVICE FOR COOKING FOODS

- (71) We, SOCIETA ITALIANA SUPERIOR S.R.L., a Company organised under the laws of Italy, of Via Enrie 6/a, Milan, Italy, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- 10 The present invention relates to improvements in devices for cooking foods, for instance by grilling, spit roasting or oven roasting. It is particularly but not exclusively applicable to devices used out of doors.
- 15 According to the present invention, a device for cooking foods comprises a box-shaped casing housing heating means and food supporting means, and above the said casing a collapsible hood structure comprising plates hingedly connected to the upper part of the said casing and which in the operative position form three sides of the hood and further comprising at least one removable plate which forms the fourth side of the hood, an air inlet being provided in the lower part of the casing and a fume outlet in the upper part of the hood.
- 20 The various plates of the hood can be folded back about hinges which connect them to fixed parts of the device, and the removable plate or plates are housed in spaces defined in sliding cover members provided in the device for protecting its component parts when the cooking device is not working or between these cover members and other parts of the device in such a manner that they add practically no bulk to that of the casing when the device is not in operation and yet can be rapidly and easily brought into the operating position.
- 25 The aforementioned plates are preferably of metal sheet.
- 30 If desired the casing and/or cover members of the cooking device can house members which are at least partially refractory and adapted for disposition in a suitable working position with respect to the combustion zone, in such a manner as to form an oven structure adapted to cooking pizzas when desired, and without further transformation of the device.
- 35 Preferably the refractory portions of the oven structure form, when in the working position, two horizontal plates spaced one above the other, the smoke passing between them and lapping the upper plate, so heating it and causing it to radiate heat in the direction of the foods placed on the lower plate lying above the combustion zone.
- 40 In a preferred embodiment of the invention, the lower oven plate is formed by two adjacent refractory members disposed in the cooking device.
- 45 The members of the oven structure cooperate with the hood members so as to determine, when all members are in position, the desired passage through which the smoke flows from the combustion zone upwards.
- 50 Preferably, the oven members are housed, when in the operating position, in the hood space, so as to provide a zig-zag passage for the smoke on its way from the combustion zone to the outlet in the upper part of the hood.
- 55 Preferably housings are provided in the casing and/or cover members of the device for the oven members, which are housed there when the cooking device is not in operation.
- 60 These and other preferred characteristics of the invention will be more evident from the description given hereinafter of one embodiment with reference to the accompanying drawings in which:
- 65 Fig. 1 is a frontal view of one embodiment of the cooking device according to the invention when cooking foods by grilling, with the frontal parts partially removed in order to illustrate the internal working members;
- 70 Fig. 2 is a vertical section on the plane 2—2 of Fig. 1 of the device shown in Fig. 1, seen in the direction of the arrows;
- 75 Figs. 3 and 4 are views analogous to Figs. 1 and 2 of the same device, working as an oven for cooking pizzas; and
- 80 Fig. 5 is an exploded perspective view

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showing the hood members, the members which cooperate in forming the oven, and the mobile cover members of the device, shown spaced apart.

5 In Fig. 1, by way of example, the device is shown provided with means for combustion and inflow of air such as those described in Italian Patent No. 903232.

10 With reference to the Figures, the cooking device comprises a casing indicated generally by the reference numeral 10. In the casing 10 are housed a grill 11, on which a solid fuel is placed, and a metal member 12 with an upper part in the form of a funnel and a lower cylindrical part, which passes through an aperture in a bottom plate 13 of the casing 10. The assembly comprising the grill 11 and member 12 can be moved vertically by any suitable means, for example by a driving handle 14 which operates a mechanism comprising levers 15, 15', counterweights 16, 16' and tie rods 17, 17'. The grill 11 is in a low position in Figs. 1 and 2 and high in Figs. 3 and 4. Above it is a cooking grill 18. The working parts situated in the casing 10 are protected when the cooking device is not working by covers 20 and 20', fixed on guides 21 which run on a frame 22 (see Fig. 5) fixed to the casing 10. The hood comprises a back plate 25 and two side plates 26, 26', these three plates when in the operating state being vertical and jointed along their edges so as to form two corners of the hood. They are hinged to the casing 10 by their lower ends so as to rotate about horizontal axes. In order to facilitate the joining of the three plates, one or more of them, for example the plate 25, may have its edges bent so as to receive the edge of the adjacent plate. On turning about the horizontal hinges, the three plates lie horizontally one on the other.

30 The hood is completed by two flat plates 27 and 28 of different inclination which engage with the said two side plates 26, 26' and rest on them leaving an upper passage 29 for smoke exit.

35 The plates 27 and 28 are at right angles to the adjacent plates 26, 26' so as to form further corners of the hood, but they are not parallel to the plate 25. The plate 28 may be made to turn upwards so as to uncover the cooking means as shown in Fig. 2, or may have a transparent portion for allowing the cooking to be supervised.

40 By folding plate 28 upwards or by removing one of the plates 27 or 28 the size of the outlet for the fumes can be varied and the draught through the combustion zone controlled according to the cooking temperature required.

Means may be provided for locking the five plates, or some of them, in the operating position.

65 As shown in Fig. 5, the plates 26, 26' are

provided with a series of holes which serve as seats for mounting a spit in one of the various possible positions, the grill 18 then being removed.

In order to close the cooking device when not in use the plates 27 and 28 are removed and housed in the covers 20, 20' as shown by the reference numeral 30 in Figs. 1 and 2, or are arranged on the grill 18 at such a level as to be first covered by the plates 25, 26 and 26' when they are folded back, and then by the covers 20, 20'. In this way the cooking device when not in operation has a flat upper surface.

The cooking device illustrated is provided with members which allow its transformation into an oven. To this end two members 31, 31' each provided with a pivoted part 32, 32' are provided. To transform the device into an oven, the members 31, 31' and parts 32, 32' are pulled upwards, for example by means of separate hooks, not shown, or by any easily constructed gripping means, and when they reach their highest position, the parts 32 and 32' are rotated into the horizontal position shown in Figs. 3 and 4. The parts 32, 32' are of refractory material and constitute the oven bottom.

The oven is completed by an upper plate comprising a vertical part 34 and a part 35 pivoted to it, housed in the back wall of the casing, said plate being raised in the same manner as the members 31, 31' and parts 32, 32', the part 35 then being rotated frontwards so that it constitutes the oven roof, being positioned above the floor formed by the parts 32 and 32', as shown in Fig. 3. The part 35 is of a refractory or other suitable material, whereas 34, 31 and 31' are preferably of sheet metal. The parts forming the oven roof and floor are maintained in the horizontal position by supports not shown.

The dimensions of the described parts are such that the floor formed by the parts 32, 32' reaches frontwards to about the end of the cooking shelf but at the back leaves a passage open as shown in Fig. 4 by the reference numeral 36, through which the hot fumes produced by combustion rise until they reach the part 35, which causes them to flow horizontally beneath the part 35 into the passage 37 and into the hood. The floor of the oven is hence heated by the hot fumes which escape through the hood, and in this manner the foods or containers containing them on the floor are heated not only by the floor but also by the oven roof by radiation, the operation being that of a reverberatory oven. It should be noted that although in Figs. 3 and 4 the cooking grill 18 is shown in its place, it may be removed when the device operates as an oven so as to allow the oven floor to be directly struck by the hot gases.

When the cooking device is closed down, the members comprising the oven are housed vertically, whereas those comprising the hood are housed horizontally so that the overall dimensions of the device are not appreciably increased. Conversion from the closed down to the operational position is extremely easy and rapid.

The cooking device described has a high efficiency both with respect to the results obtained and the thermal efficiency.

WHAT WE CLAIM IS:—

1. A device for cooking foods, which comprises a box-shaped casing housing heating means and food supporting means, and above the said casing a collapsible hood structure comprising plates hingedly connected to the upper part of the said casing and which in the operative position form three sides of the hood and further comprising at least one removable plate which forms the fourth side of the hood, an air inlet being provided in the lower part of the casing and a fume outlet in the upper part of the hood.

2. A device as claimed in claim 1, wherein said at least one of the removable plates is hingedly supported when in the operating position so that the fume outlet may be varied in size.

3. A device as claimed in claim 1 or claim 2, wherein two removable plates are provided to form the fourth side of the hood, one being above the other and both being connected to the first mentioned plates with at least the lower of the two

plates being hingedly connected to said plates so as to provide access to the food supporting zone.

4. A device as claimed in any of the preceding claims, which further comprises a cover structure for closing the casing when not in use, the plates forming three sides of the hood being first folded to lie flat in the horizontal position on the top of the casing and the removable plate or plates being housed therein.

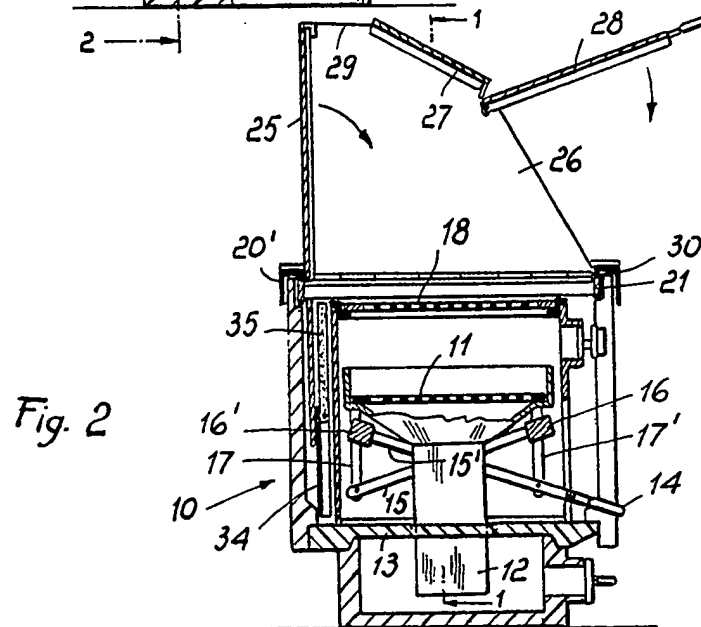
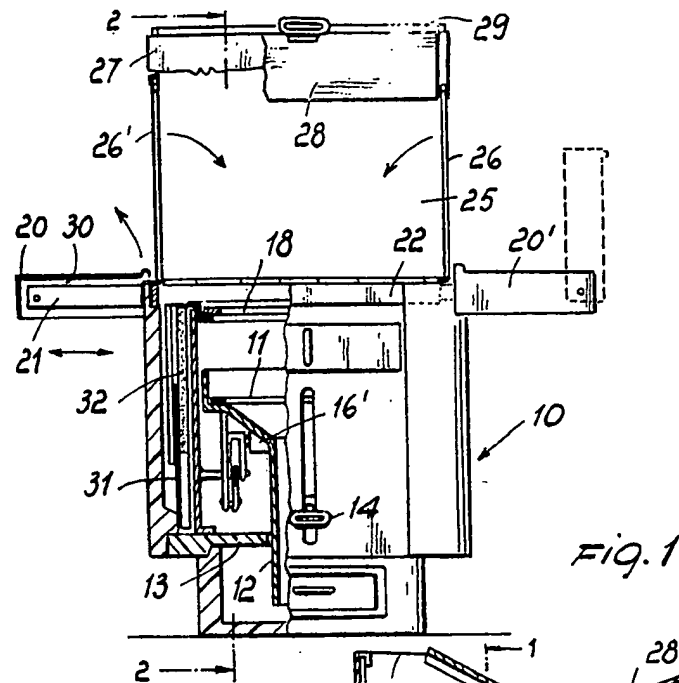
5. A device as claimed in any of the preceding claims, wherein further plates are provided above the heating means and within the hood, hingedly connected to supporting elements slidably mounted in the casing, which plates can be disposed one above the other in horizontal positions so as to define a passageway for the hot gases originating in the combustion zone and directed to the said plates.

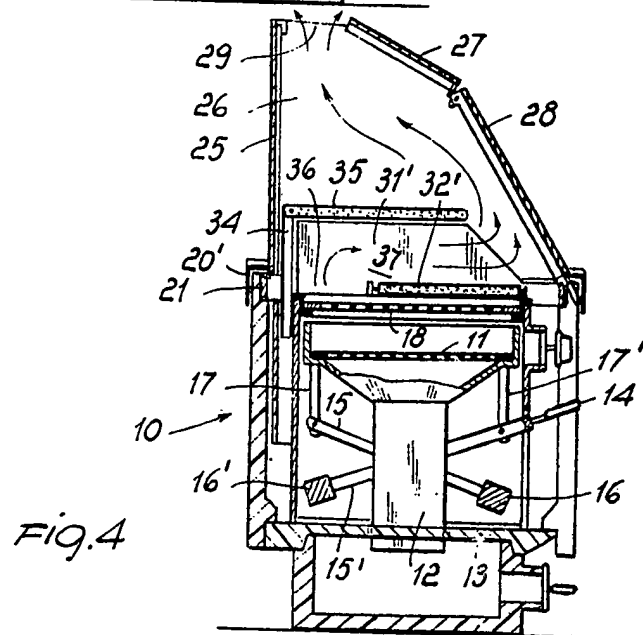
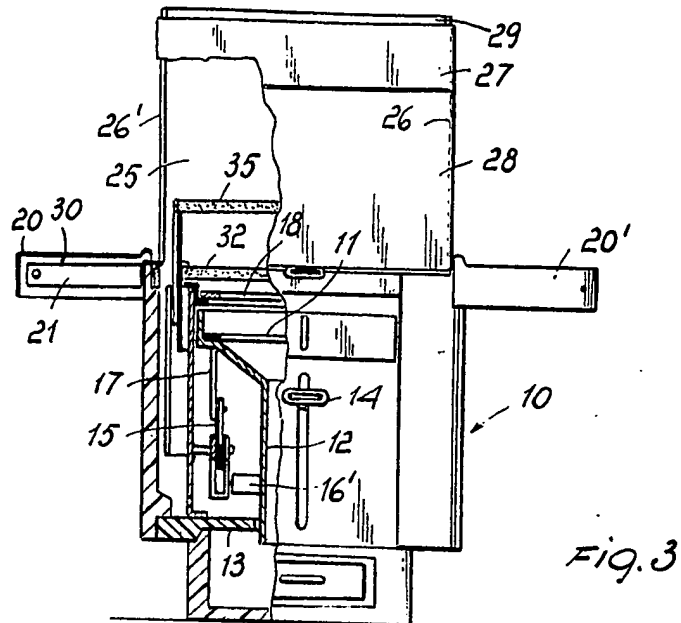
6. A device as claimed in any of the preceding claims, wherein the position of the heating means can be varied with reference to that of the food supporting means by means of levers controlling its displacement.

7. A device for cooking foods, substantially as described with reference to and as illustrated in the accompanying drawings.

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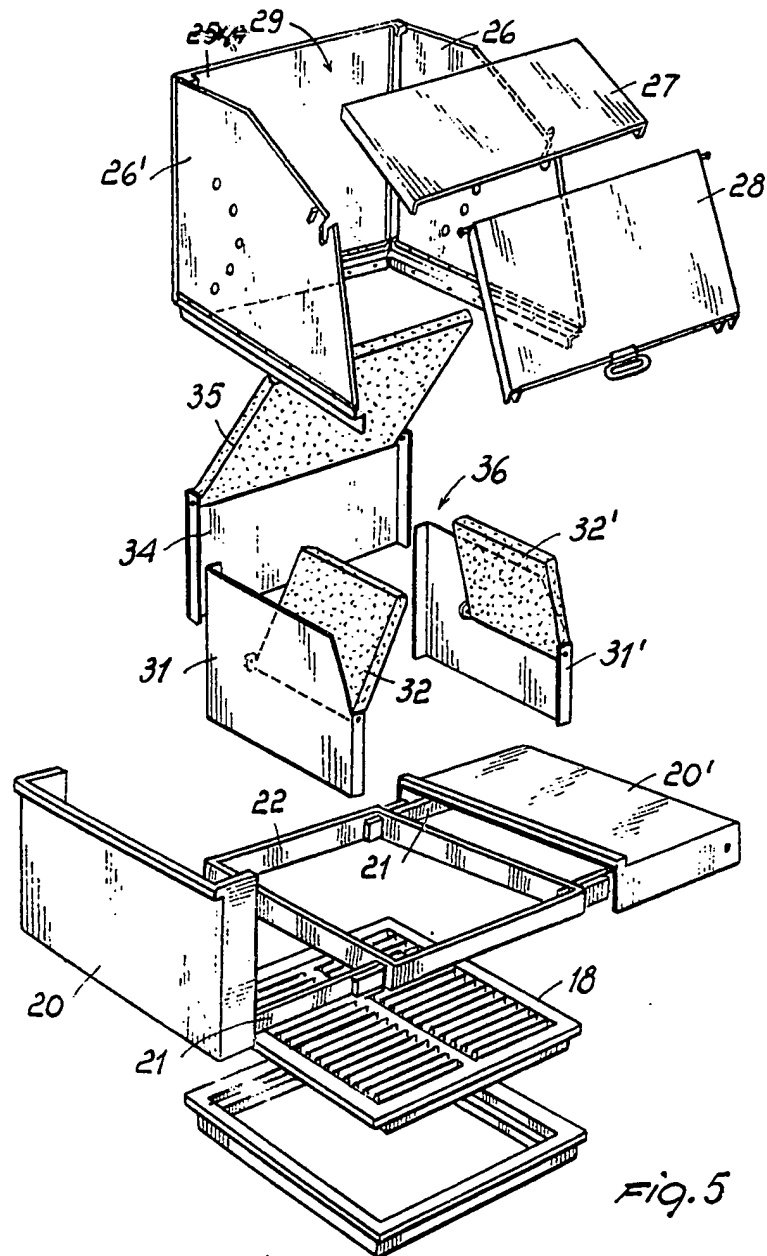


Fig. 5

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